



STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. BOX 3378
HONOLULU, HI 96801-3378

LORETTA J. FUDDY, A.C.S.W., M.P.H.
ACTING DIRECTOR OF HEALTH

In reply, please refer to:
EMD/CWB

02010CEC.11

February 8, 2011

Mr. Kyle Ginoza
Director
Department of Environmental Management
County of Maui
200 S. High Street
Wailuku, Hawaii 96793-2155

Dear Mr. Ginoza:

**Subject: Section 401 Water Quality Certification (WQC) Application for
Lahaina Wastewater Reclamation Facility (WWRF) Injection Wells 1-4
TMK: (2) 4-4-002:002 portion 029
File No. WQC 0000787/Proposed EPA UIC No. HI50710003**

The Department of Health (Department), Clean Water Branch (CWB), acknowledges receipt on June 14, 2010, of your Section 401 WQC Application (signed and dated on May 7, 2010) and the required \$1000 filing fee.

Mr. David Albright, Manager of Ground Water Office, Region 9 of U.S. Environmental Protection Agency (EPA), has indicated in his March 10, 2010 letter to you that:

"EPA has determined that the County of Maui's operation of the Lahaina WWRF may result in a discharge into navigable waters. EPA has reviewed recent studies from the University of Hawaii¹ and the USGS², which strongly suggest that effluent from the facility's injection wells is discharging into the near shore coastal zone of the Pacific Ocean. Therefore, the County's UIC permit renewal application is subject to the section 401 water quality certification requirement." (Emphasis added and footnotes not included)

You have also indicated in your transmittal of May 7, 2010 that:

"Please note that the County currently has an Underground Injection Control Permit (UM1357) issued by the Department of Health, Safe Drinking Water Branch and does not believe that disposal of treated wastewater in Lahaina through Department of Health permitted injection wells is a direct discharge into the "navigable waters of the United States" or the "waters of the United States" as those terms are defined in paragraph 18. k. iv. and v. of the Guidelines for CWB-WQC Application. Nonetheless, our intent is to work cooperatively with EPA. Therefore we have submitted the application for your review."

The CWB has reviewed the limited information contained in your Application and determined that it is incomplete.

Pursuant to Hawaii Administrative Rules (HAR), Paragraph 11-54-9.1.02, the review and processing of the Application for a Section 401 WQC cannot be completed until the following required information is received for a final Section 401 WQC determination:

1. Please provide a copy of EPA's Underground Injection Control (UIC) permit (No. HI596001) extension approval for file records.

Based on the information contained in Item Nos. 5.d and 6.d of your Application, it appears that Lahaina WWRF "treated effluent of "R-2" quality effluent are currently discharging into four (4) existing injection wells within the Lahaina WWRF into groundwater under the authorization of the following two (2) UIC permits:

- a. State UIC permit No. UM-1357 (Facility ID No. 6-5641.01, issued on March 29, 2004) which authorizes your discharges of "R-2" treated effluent through the four (4) existing injection wells expired on March 28, 2009. Per Mr. Chauncey Hew of DOH, Safe Drinking Water Branch (SDWB), the expiration date was administratively extended to March 28, 2011.
 - b. EPA UIC Permit No. HI596001 was issued on June 12, 1996, and expired on June 11, 2005 (nine (9) years from the issuance date of June 12, 1996). A copy of EPA's UIC permit extension approval was not submitted.
2. Based on Mr. Albright's letter of March 10, 2010, a Section 401 WQC is required for Maui County's EPA renewal UIC Application for the existing four (4) injection wells. Mr. Albright indicated in his letter that:

"... U. S. Environmental Protection Agency, Region IX, (EPA) has twice issued a proposed permit and we have received substantial comments on these two proposals from individual community members, academicians, environmental groups, state agencies, and the County itself. Based, in part, on these comments, as well as recent research conducted by the University of Hawaii and by the United States Geological Survey (USGS), EPA has determined that the County must apply for a Clean Water Act (CWA) section 401 water quality certification for its injection activities, as a prerequisite to EPA's issuance of a new UIC permit." (Emphasis added)

The proposed new EPA UIC Permit (File No. HI50710003) is still under review and pending final approval by EPA, Region 9. EPA, Region 9 has indicated to the DOH-CWB that they will make their final UIC permit decision after receiving CWB's final Section 401 WQC determination.

Please submit for further evaluation:

- a. A copy of EPA's latest proposed UIC Permit (No. HI50710003).

The proposed UIC Permit shall contain adequate condition(s) and requirements that ensure the injected effluent quality will meet applicable State Water Quality Standards (WQS) established in HAR, Chapter 11-54 for Open Coastal Waters at point(s) where it enters the Pacific Ocean.

- b. Permit Rationale, Statement of Basis or any other supporting document that was prepared for the proposed EPA UIC permit.
- c. An anti-degradation analysis report prepared pursuant to Title 40, Code of Federal Regulations (CFR), §131.12 and HAR, §11-54-1.01 requirements and follows the June 3, 1987 (or current version) of EPA Region 9, "Guidance on Implementing the Anti-degradation Provisions of 40 CFR §131.12."

The Pacific Ocean (West Maui Coast-nearshore waters to 60' from Honolulu – Lahaina) adjacent to Lahaina WWRF is listed in the "2006 State of Hawaii Water Quality Monitoring and Assessment Report as a Water Quality-Limited Segment (WQLS) for Total Nitrogen, Nitrate + Nitrite Nitrogen, Total Phosphorous, turbidity, Nutrients and Total Suspended Solids. CWA, Section 303(d) listed water bodies are classified by EPA as "Tier I" waters and subject to anti-degradation analysis requirements.

3. Revise the response to Item No. 6.a of the Application which states that "[N]ot directly discharged to state waters. Discharged to groundwater via injection well" because it is incorrect. Please submit representative water quality sampling results collected upgradient and downgradient of the injection wells as well as the corresponding effluent data and ground water and well discharging elevation at four (4) existing injection well locations for further evaluation.

- a. Ground water is State waters as defined in Hawaii Revised Statutes (HRS), Section 342D-1:

"State waters" means all waters, fresh, brackish, or salt, around and within the State, including, but not limited to, coastal waters, streams, rivers, drainage ditches, ponds, reservoirs, canals, ground waters, and lakes; provided that drainage ditches, ponds, and reservoirs required as a part of a water pollution control system are excluded." (Emphasis added)

- b. "Discharges into ground waters via injection wells" is a direct discharge into State waters. However, there is neither background ground water quality information nor direct evidence submitted to demonstrate that ground water does exist at the depth of the points of discharge.

4. Revise the response to Item Nos. 7.c and 7.e of the Application.

The following information is the abstract from the summary of "A Multitracer Approach to Detecting Wastewater Plumes from Municipal Injection Wells in Nearshore Marine Waters at Kihei and Lahaina, Maui, Hawaii" Scientific Investigations Report 2009–5253 prepared by the U.S. Department of the Interior U.S. Geological Survey (USGS) (downloadable from <http://pubs.usgs.gov/sir/2009/5253/>).

"Municipal wastewater plumes discharging from aquifer to ocean were detected by nearshore wading surveys at Kihei and Lahaina, on the island of Maui in Hawaii. Developed in cooperation with the Hawaii Department of Health, the survey methodology included instrument trolling to detect submarine groundwater discharge (fig. E1) followed by analysis of water and algae samples for a suite of chemical and isotopic constituents that constitute a "multitracer" approach. Following a successful proof-of-concept phase, surveys were conducted at two municipal-scale wastewater reclamation facilities on Maui, where several million gallons per day of "reclaimed water" (treated and disinfected wastewater effluent) are injected into deep wells. The main question to be answered by the study and a topic of long-standing interest is where and how the effluent discharges to the nearshore coastal environment.

The injected wastewater plumes were detected at both locales and with positive detection across multiple wastewater tracers in both instances..." (Emphasis added)

Discharges of any pollutants into State waters are subject to applicable State rules and regulations established for the affected State water bodies and the applicable permitting requirements that is designed and authorized pursuant to that rules and regulations.

- a. Please provide representative background groundwater information to demonstrate how, how long it takes or under what pathways for your injected effluent to reach the Pacific Ocean and at what quality. Detailed information is required for further evaluation.

Based on the information contained in Item No. 7.c of your Application, it appears the facility's injected treated effluent will directly enter State groundwater and indirectly enters the Pacific Ocean, an Open Coastal Waters as classified by the DOH.

- b. Based on the effluent sampling report submitted with the Application by your July 17, 2009 letter and because of incomplete information as discussed in Comment No. 4a, above, please provide the following information:
- (1) What is the representative groundwater quality at the locations where effluent is injected?
 - (2) What is the effluent quality when it enters the Pacific Ocean? There is no assurance that effluent quality at the discharge point(s) will meet applicable water quality criteria (such as the Ammonia Nitrogen, Nitrate + Nitrite Nitrogen, Total Nitrogen, Total Phosphorus, Total Residual Chlorine, enterococcus content, etc.) established for Open Coastal Waters.

- (3) What is the representative background receiving State water quality at the locations where the facility's injected treated effluent enters the Pacific Ocean, a "Class A, Marine Waters" for "Open Coastal Waters?"
5. Detailed information shall be submitted to demonstrate that the permitted injected effluent under the authorization of Federal and State UIC permit will, at a minimum, comply with the following applicable requirements when it enters the Pacific Ocean:
- a. HAR, §11-54-1(a) requirements:

As stated in Comment No. 2.c., an anti-degradation analysis that follows the June 3, 1987 (or newer version of) EPA Region 9, "Guidance on Implementing the Anti-degradation Provisions of 40 CFR §131.12" shall be submitted.

- b. HAR, §11-54-3(b)(2) requirements.

The potentially affected receiving State water is classified by the DOH as "Class A, Marine Waters" for "Open Coastal Waters." HAR, §11-54-3(b)(2) requires that:

"Class A. It is the objective of class A waters that their use for recreational purposes and aesthetic enjoyment be protected. Any other use shall be permitted as long as it is compatible with the protection and propagation of fish, shellfish, and wildlife, and with recreation in and on these waters. These waters shall not act as receiving waters for any discharge which has not received the best degree of treatment or control compatible with the criteria established for this class..."

Effluent entering the Pacific Ocean via groundwater or any other means is subject to compliance with applicable requirements as established in HAR, Chapter 11-54, for "Class A, Marine Waters" for "Open Coastal Waters." Maui County must provide any adequate and acceptable evidence that the Lahaina WWRF has complied with Second Treatment Regulations as required in applicable 40 CFR Part 133 and ensures that effluent to be injected under the authorization of the Federal UIC permit has received the best degree of treatment or control compatible with the criteria established for this class.

- c. Representative monitoring data shall be provided to demonstrate that the permitted discharges under the authorization of Federal UIC permit has complied with HAR, §§11-54-4, 11-54-6(b)(3), 11-54-7 and 11-54-8(b) requirement.
6. Revise response to Item No. 11 of the Application to include an Applicable Monitoring and Assessment Plan (AMAP) for further evaluation and processing.
- a. The AMAP shall be established and implemented to provide adequate and acceptable representative information required in Comment Nos. 2.c, 3, 4.a, 4.b, 5.a, 5.b, and 5.c, above. The AMAP shall include an implementation schedule. Maui County shall implement the AMAP only when the AMAP is accepted by the DOH-CWB in writing.

- b. The AMAP shall include sampling of the secondary treated wastewater effluent over a one (1) year duration on a once per month frequency. This sampling shall be post-treatment and prior to discharge into the injection wells for the pollutants as described in Comment No. 6.c, below. Please also refer to CWA, Section 308 requirements contained in Item No. 4 of Attachment A (dated October 7, 2010) of EPA's letter of October 12, 2010.
- c. The AMAP shall include, but not be limited to, the following:
 - (1) Description of the methods and means being used or proposed to monitor the quality and characteristics of the discharge:
 - (A) Monitoring parameters (see HAR, §§11-54-4, 11-54-6, 11-54-7 & 11-54-8);
 - (B) Type of sample (e.g., grab sample, composite sample, multi-increment sample);
 - (C) Sampling devices;
 - (D) Units of measure;
 - (E) Sampling frequency;
 - (F) Sampling method;
 - (G) Sampling location(s) of the monitoring point(s) and decision unit(s) on a map; and
 - (H) Quality Assurance/Quality Control protocol.
 - (2) Utilizing the EPA Data Quality Objective (DQO) planning process, demonstrate how and why Comment Nos. 6.b.(1)(A) through 6.b(1)(H), above, are selected.
 - (3) Reporting requirements shall include time and frequency of the reports (i.e., every month), method of the report (i.e., faxed, mailed or delivered); and content of the report.
 - (4) A narrative of how the monitoring results will be used to demonstrate whether or not the injected effluent will be in compliance with the applicable State Water Quality Standards (WQS) when it enters the Pacific Ocean. The assessment shall also include a discussion on whether reduction in loadings of pollutant of concerns (POC) or additional treatment is required to ensure that the injected effluent will comply with the applicable State WQS when it enters the Pacific Ocean.
- d. Test methods promulgated in 40 CFR, Part 136, effective on July 1, 2001, and, when applicable, the chemical methodology for sea water analyses (see HAR, Section 11-54-10) shall be used. The detection limits of the test methods used shall be equal to or lower than the applicable WQS as specified in HAR, Chapter 11-54. For situations where the applicable WQS is below the detection limits of the available test methods, the test method which has the detection limit closest to the applicable WQS shall be used. If a test method has not been promulgated for a particular parameter, the applicant may submit an application through the Director for approval of an alternate test procedure by following 40 CFR §136.4.

7. DOH-CWB will render its determination on your application for a Section 401 WQC for the subject EPA new UIC permit after receipt of the acceptable representative monitoring results, as listed above, which shall enable the CWB to make such a determination.

Pursuant to HAR, Subparagraph 11-54-9.1.02(b), failure to provide additional information or to correct a deficiency shall be sufficient grounds for denial of the certification or termination of the processing of the WQC Application. The CWB expects to receive the required information by **Monday, March 28, 2011**. Additional time may be granted upon receipt of a valid written request from you or your Duly Authorized Representative, Mr. David Taylor, Wastewater Reclamation Division Chief. This letter is to inform you that if we do not receive the required information or a valid written request by this date, we will assume that you are no longer interested in obtaining a Section 401 WQC for the subject project. The processing of your Section 401 WQC Application will be terminated and your request for a Section 401 WQC for the subject project will be automatically denied without prejudice. You may resubmit a complete Section 401 WQC Application with the required filing fee as specified in HAR, Subparagraph 11-54-9.1.02(e).

Please reference **File No. WQC 0000787** and the following certification in all future correspondence with the DOH regarding the subject project:

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

Please also note that Hawaii Revised Statutes, Subsection 342D-50(a) requires that, “No person, including any public body, shall discharge any water pollutants into state waters, or cause or allow any water pollutant to enter state waters except in compliance with this chapter, rules adopted pursuant to this chapter, or a permit or variance issued by the director.”

Mr. Kyle Ginoza
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If you have any questions, please contact Mr. Edward Chen of the Engineering Section, CWB, at (808) 586-4309.

Sincerely,



STUART YAMADA, P.E., CHIEF
Environmental Management Division

EC:np

Enclosures: 1. Receipt No. 01316 for \$1000 Filing Fee
2. Copy of June 3, 1987 EPA Region 9, "Guidance on Implementing the Anti-degradation Provisions of 40 CFR §131.12"

c: EPA, Region 9, Ground Water Office, Water Division (WTR-9)
(w/o encls.) [via e-mail rumrill.nancy@epa.gov; albright.david@epa.gov; sablad.elizabeth@epa.gov only]
PICO, EPA, Region 9 (w/o encls.) [via fax 541-2712 only]
CZM Program, Office of Planning, DBEDT (w/o encls.) [via fax 587-2899 only]
Chief, DEHP, Maui (w/o encls.) [via fax (808) 984-8237 only]
Mr. Roland Asakura, CWB, Maui District Health Office (w/o encls.) [via e-mail only]